Abstract

RAY TRACING IN DISCONTINUOUS MULTIMODE CHANNEL WAVEGUIDES

The invention relates to a method for determining the transmission behaviour of an optical waveguide with a step index profile, wherein the optical waveguide is composed of guide pieces, protruding into each other, so that the surfaces of said guide pieces comprise real and virtual surfaces, lying respectively outside and inside another guide piece. The transmission behaviour is determined by geometric ray tracing, wherein the points of intersection of a ray with the surfaces of the guide pieces are determined, which are thus defined analytically, in particular, by extrusion of cross sections along an axial trajectory. A real material transition can be determined by an iterative procedure.